

AGENCY

Online Human Space Physiology Training Course 2021 prepares University students to support future space exploration endeavours

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In brief

ESA's [Education Office](#) and [Space Medicine Team](#) have collaborated to run the Online Human Space Physiology Training Course 2021. Held from 18 to 29 October 2021, in attendance were 44 university students from 17 different [ESA Member States and Canada](#).

In-depth

Each is currently studying for a Bachelor or Masters degree in medicine, life sciences, biological sciences, or a biomedicine-related subject. Offering their unique perspectives were 19 experts from ESA and various research institutes and universities from across Europe.

The course began with students learning about the history of human spaceflight, before moving onto the International Space Station's life support systems. They discovered how the environment of space differs from that on Earth, and the challenges that astronauts have faced in the past; and how the lessons learned have influenced current and future space exploration.

With that grounding under their belts, the students dived into how specific physiological systems respond to being in space, including the immunological, cardiovascular, muscle and skeletal systems. This was then complimented by discussion of how medical support is provided in space including key considerations such as nutrition and exercise, as well as how human physiology research is conducted both in space and on Earth-based analogues.

— University students group discussing ideas for the group project with their expert tutor

"This course was really a wonderful experience," said a German student from Heidelberg University. "A very nice balance of lectures took us on a journey across many different topics covering space physiology and beyond. As a student who only recently started to think about a career in space science, this was the perfect opportunity to glimpse all the aspects involved, as well as meeting experts and like-minded people."